

App. Serial No.: 10/044,398
Atty. Docket No.: 0026-011

Applicant respectfully traverses.

The standard for anticipation is set forth in M.P.E.P. § 2131 as follows:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1:

As amended herein, Claim 1 recites:

1. An apparatus for proportioning a chemical with a solvent, comprising:
 - a flow measurement apparatus for measuring the flow rate of the solvent;
 - a control unit for calculating the quantity of chemical to be added to the solvent based at least in part on the flow rate of the solvent; and
 - a flow control device for metering the quantity of the chemical added to the solvent. (emphasis added)

Claim 1 recites "a control unit for calculating the quantity of chemical to be added to the solvent based at least in part on the flow rate of the solvent." Proudman does not disclose this limitation. Rather, Proudman discloses a system that delivers a predetermined volume of chemical to a dilution manifold 24. The quantity of chemical delivered does not depend on the flow rate of the solvent. Instead, the system monitors the difference in the total volume that flows through two flow meters 22 (measures water in) and 30 (measures mixture out). The volume difference is the amount of chemical that has been added to the water. When the desired total volume of chemical has been added, system controller 33 shuts off the valve 26, preventing further chemical flow into the manifold 24.

Note that the system of Proudman is a batch system. In other words, the system of Proudman delivers a predetermined volume of mixture to a user. For example, see *Proudman*, Col. 5, Lines 1-4. Therefore, it is the total volumes of water and chemical that are important, and

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not the relative flow rates. Proudman expressly acknowledges this fact at Column 5, Lines 51-56, which provides:

In practice the pump may change its delivery rate, but since the system measures the corrected difference between the flow meters the pump variation is cancelled, and, similarly, the chemical introduction may vary without affecting the system volume delivery accuracy.

Further, there is no indication in Proudman that the delivery rate of the chemical can be changed, other than being turned on or off, by controller 33. Instead, the flow rate of chemical into dilution manifold 24 is set by orifices. Although the orifices can be adjusted (e.g., for viscosity or flow rate of the specific chemical) (*Proudman*, Col. 2, Lines 57-60), there is no indication that the flow rate of the chemical is adjusted based on the flow rate of the water during operation. The system of Proudman simply shuts off the chemical after it has been determined that the right amount of chemical for the entire batch has been added.

In contrast to the batch delivery system of Proudman, the system of the present invention mixes chemicals "on the fly." See e.g., Applicant's Specification, Page 3, Lines 8-24. The amount of chemical injected into the mix is determined by demand. Thus, as recited in Claim 1, the quantity of chemical to be added to the solvent is calculated at least in part on the flow rate of the solvent.

Finally, Applicant notes another subtle but important difference between Applicant's claimed invention and the Proudman reference. In particular, according to Claim 1 the control unit calculates "the quantity of chemical to be added" based on the flow rate of the solvent. In contrast, according to Proudman the flow volumes of the water and the mixture are measured and compared to calculate how much of a predetermined quantity of chemical has been added to the water.

For all of the above reasons, Applicant respectfully asserts that the cited reference does not disclose every element of Claim 1. Therefore, the cited reference does not anticipate Claim 1. Claims 2-6, 9-11, and 31 depend either directly or indirectly from Claim 1 and are therefore distinguished from the cited prior art for at least the reasons provided above with respect to amended Claim 1.

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Claim 22:

Claim 22 recites (in part) "calculating means for calculating a desired flow rate for the chemical." Therefore, Claim 22 is distinguished from the cited reference for at least the same reasons provided above with respect to Claim 1. Claims 23-25, 29, and 39 depend, either directly or indirectly, from Claim 22 and are therefore distinguished from the cited prior art for at least the same reasons provided with respect to Claim 22.

For the above reasons Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 102.

Rejections Under 35 U.S.C. § 103

Claims 7, 8, 12, 26-28, and 30 are rejected under 35 U.S.C. § 103 as being unpatentable over Proudman.

Applicant respectfully traverses.

In order to establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. M.P.E.P. §2143.

As indicated above, Claims 1 and 22 recite a control unit or control means for calculating the quantity of chemical to be added to the solvent/water based at least in part on the flow rate of the solvent. For the reasons provided above with respect to Claims 1 and 22, Applicant respectfully asserts that Proudman does not teach or suggest such a limitation. Therefore, because the cited reference does not teach or suggest all the limitations of Claims 1 and 22, no prima facie case of obviousness can be established with respect to Claims 1 and 22. Claims 7, 8, 12, 26-28, and 30 depend either directly or indirectly from either Claims 1 or Claim 22, and are therefore distinguished from the cited prior art for at least the reasons provided above with respect to Claims 1 and 22.

For the above reasons Applicant requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 103.

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Allowable Subject Matter:

Applicant appreciates the Examiner's indication that Claims 32-38 and 40-46 contain allowable subject matter.

For the foregoing reasons, Applicant believes Claims 1-12 and 22-46 are in condition for allowance. Should the Examiner undertake any action other than allowance of Claims 1-12 and 22-46, or if the Examiner has any questions or suggestions for expediting the prosecution of this application, the Examiner is requested to contact Applicant's attorney at (269) 279-8820.

Respectfully submitted,

Date: 11/22/04

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CERTIFICATE OF FACSIMILE TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being transmitted via facsimile, on the date shown below, to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, at (703) 872-9306.

Date: 11/22/04

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